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Q701.1 One (1) bottle of Gorilla brand super glue (Your 1B1307, E5179171)

Q702 One (1) bottle of Gorilla brand glue (Your 1B1306, E5179170)

Q703 Black knife (Your 1B1294, E5179191)

Q704 Knife (Your 1B1318, E5179168)

Q704.1 Knife Sheath (Your 1B1318, E5179168)

Q705 Handwritten note with blue ink (Your Item #88, E5179166)

Q706 BBs and metal fragments (Your Item #64, E5179194)

Q707 Cloth bag (Your 1B1305, E5179169)

Q707.1 Towel (Your 1B1305, E5179169)

Q707.2 Shirt (Your 1B1305, E5179169)

Q707.3 Shirt (Your 1B1305, E5179169)

Q707.4 Rag (Your 1B1305, E5179169)

Q707.5 Plastic bag (Your 1B1305, E5179169)

Q707.6 Tools (Your 1B1305, E5179169)

Q707.7 Box cutter from Q707.6 (Your 1B1305, E5179169)

Q707.8 Diagonal cutters from Q707.6 (Your 1B1305, E5179169)

Q707.9 Needle nose pliers from Q707.6 (Your 1B1305, E5179169)

Q708 Composition notebook covers (Your 1B1345, E5179160)

Q708.1 Loose piece of paper from Q708 (Your 1B1345, E5179160)

Q708.1.1-Q708.1.91 Pages from Q708 (Your 1B1345, E5179160)

Q708.1.46.1 Debris from Q708.1.46 (Your 1B1345, E5179160)

Q708.1.47-Q708.1.91 Pages from Q708 (Your 1B1345, E5179160)

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- Q708.2 Blue cover spiral notebook front cover (Your 1B1345, E5179160)
- Q708.2.1-Q708.2.68 Pages and dividers from Q708.2 (Your 1B1345, E5179160)
- Q708.2.69 Blue cover spiral notebook back cover (Your 1B1345, E5179160)
- Q708.3 Top Flight red spiral notebook front cover (Your 1B1345, E5179160)
- Q708.3.1-Q708.3.6 Pages from Q708.3 (Your 1B1345, E5179160)
- Q708.3.6.1 Debris from Q708.3.6 (Your 1B1345, E5179160)
- Q708.3.7-Q708.3.103 Pages from Q708.3 (Your 1B1345, E5179160)
- Q708.3.104 Top Flight red spiral notebook back cover (Your 1B1345, E5179160)
- Q708.4 Mead red spiral notebook covers (Your 1B1345, E5179160)
- Q708.4.1 Letter from Commonwealth of MA from Q708.4 (Your 1B1345, E5179160)
- Q708.4.2 Green piece of paper from Q708.4 (Your 1B1345, E5179160)
- Q708.4.3 Mass Health document from Q708.4 (Your 1B1345, E5179160)
- Q708.4.4-Q708.4.142 Pages from Q708.4 (Your 1B1345, E5179160)
- Q708.5 Bunker Hill Community College pad of paper covers (Your 1B1345, E5179160)
- Q708.5.1-Q708.5.40 Pages from Q708.5 (Your 1B1345, E5179160)
- Q708.5.41 Bunker Hill Community College pad of paper back cover (Your 1B1345, E5179160)
- Q708.6 "Birds" graph paper covers (Your 1B1345, E5179160)
- Q708.6.1-Q708.6.23 Pages from Q708.6 (Your 1B1345, E5179160)
- Q709 KleenBore utility cleaning brush box (Your 1B1320, E5179199)
- Q709.1 KleenBore utility cleaning brush (Your 1B1320, E5179199)
- Q709.2 One (1) package of Winchester cleaning cloth (Your 1B1320, E5179199)

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- Q710 Outers choкетube and gun grease (Your 1B1301, E5179198)
- Q711 Screwdriver set (Your 1B1312, E5179176)
- Q712 KleenBore gun cleaning kit (Your 1B1300, E5179197)
- Q712.1 Plastic bag (Your 1B1300, E5179197)
- Q712.2 Bottle with contents (Your 1B1300, E5179197)
- Q712.3 Brush (Your 1B1300, E5179197)
- Q712.4 Rod with handle (Your 1B1300, E5179197)
- Q712.5 Plastic bag (Your 1B1300, E5179197)
- Q713 Black coat (Your 1B1322, E5179177)
- Q714 Leather bound notebook front and back covers (Your 1B1310, E5179174)
- Q714.1-Q714.69 Pages from Q714 (Your 1B1310, E5179174)
- Q714.69.1 Debris from Q714.69 (Your 1B1310, E5179174)
- Q714.70-Q714.105 Pages from Q714 (Your 1B1310, E5179174)
- Q715 Notebook front and back covers (Your 1B1340, E5179165)
- Q715.1-Q715.118 Pages from Q715 (Your 1B1340, E5179165)
- Q716-Q716.8 "The Sovereign Newspaper" with underlined passages (Your 1B1344, E5179161)
- Q717 Sample 7 swab, remote control (Your 1B1341, E5179164)
- Q718 Sample 10 swab, Honda keys (Your 1B1341, E5179164)
- Q719 Sample 9 swab, Subaru keys (Your 1B1341, E5179164)
- Q720 Sample 8 swab, weight bars (Your 1B1341, E5179164)
- Q721 Sample 6 swab, toilet flush lever (Your 1B1341, E5179164)
- Q722 Sample 5 swab, keypad (Your 1B1341, E5179164)

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- Q723 Sample 4 swab, caulk gun (Your 1B1341, E5179164)
- Q724 Sample 3 swab, top of chair in kitchen (Your 1B1341, E5179164)
- Q725 Tools and miscellaneous items (Your 1B1352, E5179153)
- Q725.1 Gray, polymer ring (Your 1B1352, E5179153)
- Q725.2 Black knob (Your 1B1352, E5179153)
- Q725.3 One (1) spool of green wire and one (1) spool of black wire (Your 1B1352, E5179153)
- Q725.4 One (1) spool of PTFE thread seal tape (Your 1B1352, E5179153)
- Q725.5 Roll of duct tape (Your 1B1352, E5179153)
- Q725.6 Roll of black tape (Your 1B1352, E5179153)
- Q725.7 Tape packaging (Your 1B1352, E5179153)
- Q725.8 Piece of paper towel (Your 1B1352, E5179153)
- Q725.9 One (1) pair of scissors (Your 1B1352, E5179153)
- Q725.10 One (1) wire stripper (Your 1B1352, E5179153)
- Q725.11 Piece of hobby fuse from Q725 (Your 1B1352, E5179153)
- Q725.12 One (1) pair of scissors from Q725 (Your 1B1352, E5179153)
- Q725.13 One (1) pair of scissors from Q725 (Your 1B1352, E5179153)
- Q725.14 One (1) pair of scissors from Q725 (Your 1B1352, E5179153)
- Q725.15 One (1) pair of scissors from Q725 (Your 1B1352, E5179153)
- Q725.16 One (1) screwdriver from Q725 (Your 1B1352, E5179153)
- Q725.17 One (1) screwdriver from Q725 (Your 1B1352, E5179153)
- Q725.18 One (1) screwdriver from Q725 (Your 1B1352, E5179153)

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- Q725.19 One (1) screwdriver from Q725 (Your 1B1352, E5179153)
- Q725.20 One (1) diagonal cutter from Q725 (Your 1B1352, E5179153)
- Q725.21 One (1) diagonal cutter from Q725 (Your 1B1352, E5179153)
- Q725.22 One (1) pair of pliers from Q725 (Your 1B1352, E5179153)
- Q725.23 One (1) pair of pliers from Q725 (Your 1B1352, E5179153)
- Q725.24 One (1) metal can lid with black scorching from Q725 (Your 1B1352, E5179153)
- Q726 Box for two-hundred (200) mini-lights (Your 1B1350, E5179151)
- Q726.1 Two-hundred (200) mini-lights (Your 1B1350, E5179151)
- Q727 BBs (Your 1B1347, E5179158)
- Q728 Kershaw 1006 knife (Your 1B1349, E5179150)
- Q729 Tools (Your 1B1353, E5179155)
- K19 Control sample #1 (Your 1B1342, E5179163)
- K20 Suit/glove control (Your 1B1342, E5179163)
- K21 Sample 11 swab, blanks (Your 1B1341, E5179164)

**ITEMS FROM HONDA ODYSSEY, OUTSIDE RESIDENCE (410 NORFOLK ST, APT. 3, CAMBRIDGE, MA):**

- Q730 Paper with writing (Your 1B933, E5180995)
- Q731 Notebook front cover (Your 1B924, E5179057)
- Q731.1-Q731.118 Pages from Q731 (Your 1B924, E5179057)
- Q731.119 Notebook back cover (Your 1B924, E5179057)
- Q732 Vacuum filter A (Your 1B927, E5180999)
- Q733 Vacuum filter B (Your 1B927, E5180999)
- Q734 Vacuum filter C (Your 1B927, E5180999)

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Q735 Vacuum filter D (Your 1B927, E5180999)

**ITEMS FROM PINE DALE HALL (ROOM 7341) AT UMASS DARTMOUTH:**

Q736 Box (Your 1B1567, E5179238)

Q736.1 BBs from Q736 (Your 1B1567, E5179238)

Q736.2 Bag from Q736 (Your 1B1567, E5179238)

Q737 Roll of tape (Your 1B1564, E5179235)

Q738 Handwritten note on graph paper (Your 1B1555, E5179225)

Q739 Two (2) black plastic strips (Your 1B1566, E5179237)

Q740 Black plastic with 8 round holders (Your 1B1570, E5179226)

Q741 BBs (Your 1B1556, E5179227)

Q742 One (1) pocket knife (Your 1B1560, E5179231)

Q742.1 One (1) pocket knife (Your 1B1560, E5179231)

Q743 Power cord with exposed circuit board (Your 1B1551, E5179221)

Q743.1-Q743.4 Tape from Q743 (Your 1B1551, E5179221)

Q744 White Polo baseball cap (Your 1B1550, E5179220)

Q745 ProSeries 6-piece home tool set case (Your 1B1563, E5179234)

Q745.1 Tape measure (Your 1B1563, E5179234)

Q745.2 Pliers (Your 1B1563, E5179234)

Q745.3 Knife (Your 1B1563, E5179234)

Q745.4 Wrench (Your 1B1563, E5179234)

Q745.5 Flathead screwdriver (Your 1B1563, E5179234)

Q745.6 Phillips screwdriver (Your 1B1563, E5179234)

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- Q746 Wires (Your 1B1565, E5179236)
- Q746.1 Wire cutter (Your 1B1565, E5179236)
- Q746.2 Plastic bag (Your 1B1565, E5179236)
- Q746.2.1 Flathead screwdriver (Your 1B1565, E5179236)
- Q746.3 Plastic bag (Your 1B1565, E5179236)
- Q746.3.1 Phillips screwdriver (Your 1B1565, E5179236)
- Q746.4 Plastic bag (Your 1B1565, E5179236)
- Q746.4.1 Pliers (Your 1B1565, E5179236)
- Q746.5 Breadboard box (Your 1B1565, E5179236)
- Q746.5.1 One (1) breadboard (Your 1B1565, E5179236)
- Q746.6 Breadboard box (Your 1B1565, E5179236)
- Q746.7 Paper bearing notations "University of Massachusetts, Dartmouth" (Your 1B1565, E5179236)
- Q746.8 Oscilloscope probe kit bag (Your 1B1565, E5179236)
- Q746.8.1 Oscilloscope probe kit instructions (Your 1B1565, E5179236)
- Q746.8.2 Oscilloscope probe (Your 1B1565, E5179236)
- Q746.8.3 Oscilloscope bag with six (6) parts (Your 1B1565, E5179236)
- Q746.9 Plastic bag (Your 1B1565, E5179236)
- Q746.9.1 Alligator leads (Your 1B1565, E5179236)
- Q746.10 Plastic bag (Your 1B1565, E5179236)
- Q746.10.1 Alligator leads (Your 1B1565, E5179236)
- Q746.11 Plastic bag (Your 1B1565, E5179236)

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Q746.11.1 Alligator leads (Your 1B1565, E5179236)

Q746.12 Plastic bag of alligator lead set (Your 1B1565, E5179236)

Q747 Black jacket Fouk, size large (Your 1B1569, E5179240)

**ITEMS FROM HONDA ODYSSEY, OUTSIDE RESIDENCE (410 NORFOLK ST, APT. 3, CAMBRIDGE, MA):**

Q748 Part of cricket device (Your 1B818, E5182417)

Date specimen received: April 22, 2013

The following specimen was received in the Explosives Unit.

**THE FOLLOWING ITEM WAS RECOVERED FROM THE BOSTON BOMBING. THIS ITEM WAS SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 23, 2013, RECEIVED INTO THE LABORATORY ON APRIL 22, 2013, ASSIGNED LABORATORY NUMBER 130422101 AND EXAMINED IN THE EXPLOSIVES UNIT:**

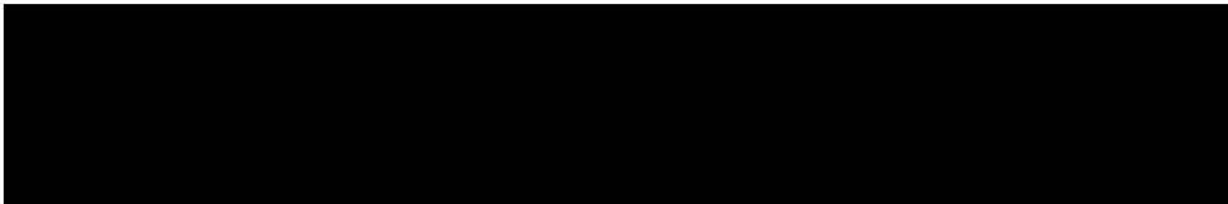
**THE FOLLOWING SPECIMEN WAS ACQUIRED FROM THE RESUSCITATION ROOM 20 AT BETH ISRAEL HOSPITAL, BOSTON, MA:**

Q749 Fragment (Your 1B1012, E5180964)

Date specimens received: April 22, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 23, 2013, RECEIVED INTO THE LABORATORY ON APRIL 22, 2013, ASSIGNED LABORATORY NUMBER 130422100 AND EXAMINED IN THE EXPLOSIVES UNIT:**





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**ACQUIRED FROM BRAINTREE PD:**

K22 DNA swabs of

K23 Fingerprints of

Date specimens received: April 23, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 23, 2013, RECEIVED INTO THE LABORATORY ON APRIL 23, 2013, ASSIGNED LABORATORY NUMBER 130423010 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM**

Q 751 One (1) pair of Timberland boots (1B2160, E5181182)

Q752 Chromium crusher containing residue (1B2077, E5179460)

Q753 Phillips screwdriver (1B2097, E5179479)

Q754 Leatherman super tool (1B2118, E5179496)

Q755 One (1) flathead screwdriver, one (1) Phillips screwdriver, one (1) pair of scissors, one (1) pair of pliers, one (1) socket wrench (1B2063, E5179446)

Q756 *Principles of Environmental Chemistry* textbook (1B2062, E5179445)

Q756.1- Q756.3 Pages from Q756 (1B2062, E5179445)

Q757 *General Chemistry* textbook (1B2092, E5179474)

Q758 *General Chemistry* textbook (1B2111, E5179493)

Q758.1- Q758.19 Miscellaneous bookmarks and documents with foreign handwriting from Q758 (1B2111, E5179493)

Q758.20- Q758.22 Pages from Q758 (1B2111, E5179493)


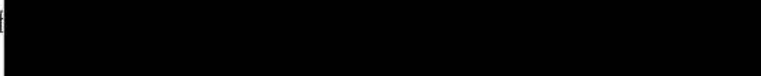
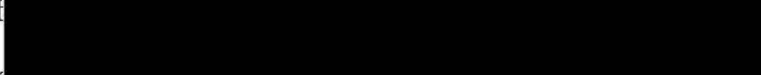
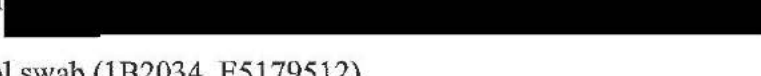

Q759 Swab of black table and bench, Room A (1B2166, E5181180)

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- Q760 Swab of kitchen counter tops, Room B (1B2166, E5181180)
- Q761 Swab of air conditioner return, Room A (1B2166, E5181180)
- Q762 Multi-purpose tool (1B2033, E5179510)
- Q763 One (1) roll of solder and one (1) soldering iron (1B2038, E5179516)
- Q764 One (1) pair of pliers, one (1) wrench and six (6) screwdrivers (1B2040, E5179517)
- Q764.1 One (1) pair of pliers (1B2040, E5179517)
- Q764.1.1 Tape from Q764.1 (1B2040, E5179517)
- Q764.2 One (1) pair of pliers (1B2040, E5179517)
- Q765 One (1) pair of scissors and three (3) screwdrivers (1B2042, E5179520)
- Q766 Six (6) screwdrivers (1B2043, E5179521)
- Q767 Swab from B, C, D toolboxes (1B2037, E5179515)
- Q768 Swab from shed of board and floor (1B2035, E5179513)
- Q769 Swab from shed of window and window sill (1B2035, E5179513)
- Q770 Swab from shed of car bumper (1B2035, E5179513)
- K24 Negative control swab (1B2163, E5181181)
- K25 Control swab of 
- K26 Control swab of 
- K27 Control swab of 
- K28 Control swab of 
- K29 Negative control swab (1B2034, E5179512)
- K30 Control swab of 

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**ACQUIRED FROM ALLEY BEHIND [REDACTED]**

- Q771 Roll of black electrical tape (1B2044, E5179522)
- Q772 Wires with lamp attached (1B2041, E5179519)
- Q773 One (1) screwdriver, one (1) wrench (1B2036, E5179514)
- Q773.1 One (1) pair of cutters (1B2036, E5179514)

**ACQUIRED FROM TRASH CAN BEHIND [REDACTED]**

- Q774 Four (4) screwdrivers (1B1972, E5179509)
- Q775 Nine (9) screwdrivers (1B1972, E5179509)
- Q776 Three (3) pliers (1B1972, E5179509)
- Q777 Two (2) wrenches and two (2) pliers (1B1972, E5179509)
- Q778 One (1) Phillips head screwdriver (1B1973, E5179511)

**ACQUIRED FROM SIDEWALK IN FRONT OF [REDACTED]**

- Q779 Three (3) pieces of black tape (S465, E5182712)

Date specimens received: April 23, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 25, 2013, RECEIVED INTO THE LABORATORY ON APRIL 23, 2013, ASSIGNED LABORATORY NUMBER 130423011 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM PINE DALE HALL (ROOM 7341) AT UMASS DARTMOUTH:**

- Q780 Big Snow Pyrotechnics (1B1544, E5179214)
- Q780.1 Single tube from Q780 (1B1544, E5179214)
- Q780.1.1 Powder sample from Q780.1 (1B1544, E5179214)

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Q780.1.2 Powder sample from Q780.1 (1B1544, E5179214)

Q780.1.3 Powder sample from Q780.1 (1B1544, E5179214)

Q780.1.4 Powder sample from Q780.1 (1B1544, E5179214)

Q780.1.5 Powder sample from Q780.1 (1B1544, E5179214)

Q780.1.6 Powder sample from Q780.1 (1B1544, E5179214)

Q780.1.7 Powder sample from Q780.1 (1B1544, E5179214)

Date specimens received: April 23, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 25, 2013, RECEIVED INTO THE LABORATORY ON APRIL 23, 2013, ASSIGNED LABORATORY NUMBER 130423012 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM THE INTERSECTION OF LINCOLN AND SPRUCE, WATERTOWN, MA:**

Q781 Plastic container and hobby fuse (E5182413)

Q781.1 Sample of fuse from Q781 (E5182413)

Q781.2 Powder from Q781 (E5182413)

Q781.3 Tape from Q781 (E5182413)

Q781.3.1 Piece of tape from Q781.3 (E5182413)

Q782 Hobby fuse (E5182415)

Q783 BB and powder (E5182416)

Q784 Powder from 90 degree elbow device #1 (1W19, E5181157)

Q785 Powder from coupler device #2 (1W22, E5181160)

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Q786 Powder removed from plastic container (E5182414)

Date specimens received: April 24, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 27, 2013, RECEIVED INTO THE LABORATORY ON APRIL 24, 2013, ASSIGNED LABORATORY NUMBER 130424003 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM** [REDACTED]

Q787 One (1) drill bit case (1B2244, E5179567)

Q787.1 Twenty-one (21) drill bits (1B2244, E5179567)

Q787.1.1 One (1) drill bit (1B2244, E5179567)

Q787.1.2 One (1) drill bit (1B2244, E5179567)

Q787.1.3 One (1) drill bit (1B2244, E5179567)

Q787.1.4 One (1) drill bit (1B2244, E5179567)

Q787.1.5 One (1) drill bit (1B2244, E5179567)

Q787.2 Thirty (30) drill bits (1B2244, E5179567)

Q787.3 One (1) drill bit case (1B2244, E5179567)

Q787.4 Eleven (11) drill bits (1B2244, E5179567)

Q787.5 One (1) drill bit (1B2244, E5179567)

Q787.6 Forty-eight (48) drill bits (1B2244, E5179567)

Q788 Two (2) vise jaw caps (1B2245, E5179568)

Q789 Two (2) vise jaws (1B2243, E5179566)

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Q790 Two (2) vise jaw caps (1B2246, E5179569)

Q791 One (1) hacksaw blade (1B2247, E5179570)

Q791.1 One (1) hacksaw blade (1B2247, E5179570)

Q791.2 One (1) hacksaw blade (1B2247, E5179570)

Q791.3 One (1) hacksaw blade (1B2247, E5179570)

Q791.4 One (1) hacksaw blade (1B2247, E5179570)

Q791.5 One (1) hacksaw blade (1B2247, E5179570)

Q791.6 One (1) hacksaw blade (1B2247, E5179570)

Q791.7 One (1) hacksaw blade (1B2247, E5179570)

Q791.8 One (1) hacksaw blade (1B2247, E5179570)

Q791.9 One (1) hacksaw blade (1B2247, E5179570)

Q791.10 One (1) hacksaw blade (1B2247, E5179570)

Q791.11 One (1) hacksaw blade (1B2247, E5179570)

Q792 One (1) roll of TaegaSeal PTFE tape (1B2248, E5179571)

Q792.1 One (1) roll of TaegaSeal PTFE tape (1B2248, E5179571)

Q792.2 One (1) roll of T.F.E tape (1B2248, E5179571)

Q792.3 One (1) roll of T.F.E tape (1B2248, E5179571)

Q793 Green wire (1B2249, E5179572)

Q794 Green wire (1B2250, E5179573)

Q795 One (1) wire cutter (1B2251, E5179574)

Q795.1 One (1) wire cutter (1B2251, E5179574)

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**ACQUIRED FROM** [REDACTED]

- Q796 White powder (1B2361, E5179559)
- Q797 Vacuum filter of driver's front seat (1B2362, E5179560)
- Q798 Vacuum filter of front passenger seat (1B2326, E5179560)
- Q799 Vacuum filter of middle one – third of van (1B2326, E5179560)
- Q800 Vacuum filter of back one – third of van (1B2326, E5179560)
- Q801 One (1) black trash bag (1B2363, E5179561)
- Q802 White plastic liner of van (1B2360, E5179558)
- Q803 Swab of floor of van (1B2359, E5179557)
- Q804 Swab of interior of van above wheel wells (1B2359, E5179557)
- K31 Control swab of [REDACTED]
- K32 Control swab of [REDACTED]
- K33 Control swab of [REDACTED]

Date specimens received: April 25, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 27, 2013, RECEIVED INTO THE LABORATORY ON APRIL 25, 2013, ASSIGNED LABORATORY NUMBER 130425018 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM** [REDACTED]

- Q805 Swab of light switch and doorbell (Item # 8R8, E5754032)
- Q806 Swab of kitchen doorknob (Item # 8R8, E5754032)
- Q807 Swab of white powder in kitchen in plastic container (Item # 8R8, E5754032)

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- Q808 Swab of lids of plastic container in kitchen (Item # 8R8, E5754032)
- Q809 Swab of doorknob in bedroom (Item # 8R8, E5754032)
- Q810 Swab of light switch in bedroom (Item # 8R8, E5754032)
- Q811 Swab of closet doorknob in bedroom (Item # 8R8, E5754032)
- Q812 Swab of suitcases on shelf in bedroom (Item # 8R8, E5754032)
- Q813 Swab of closet doorknob in hall (Item # 8R8, E5754032)
- Q814 Swab of bathroom light switch (Item # 8R8, E5754032)
- Q815 Swab of drains in bathroom (Item # 8R8, E5754032)
- Q816 Swab of bathroom doorknob (Item # 8R8, E5754032)
- Q817 Swab of kitchen sink/microwave (Item # 8R8, E5754032)
- Q818 Powder from grey container in kitchen (Item # 8R9, E5754033)
- Q819 Powder from container in kitchen cabinet (Item # 8R10, E5754034)
- K34 Control swab (Item # 8R11, E5754035)

K35 Control of

**ACQUIRED FROM**

- Q820 Swab of steering wheel (Item # 5V03, E5754021)
- Q821 Swab of driver seat and armrest (Item # 5V03, E5754021)
- Q822 Swab of radio/heat knobs (Item # 5V03, E5754021)
- Q823 Swab of passenger seat (Item # 5V03, E5754021)
- Q824 Swab of passenger floor (Item # 5V03, E5754021)
- Q825 Swab of rear seat (Item # 5V03, E5754021)
- Q826 Swab of rear floor (Item # 5V03, E5754021)

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- Q827 Swab trunk (Item # 5V03, E5754021)
- Q828 Swab of passenger side front door handle (Item # 5V03, E5754021)
- Q829 Swab of rear driver side door (Item # 5V03, E5754021)
- Q830 Trace evidence filter from front drivers quad (Item # 5V06, E5754024)
- Q831 Trace evidence filter from front passenger quad (Item # 5V07, E5754015)
- Q832 Trace evidence filter from rear passenger quad (Item # 5V08, E5754016)
- Q833 Trace evidence filter from rear drivers quad (Item # 5V09, E5754017)
- Q834 Trace evidence filter from trunk (Item # 5V10, E5754018)
- K36 Control swab of [REDACTED] (Item # 5V01, E5754019)
- K37 Control swab of [REDACTED] gloves (Item # 5V01, E5754019)
- K38 Control swab (Item # 5V02, E5754020)

**ACQUIRED FROM [REDACTED]**

- Q835 Two (2) attached cardboard tubes with fuse and tape (4W1A, E5754001)
- Q836 Five (5) attached cardboard tubes with fuse and tape (4W1A, E5754001)
- Q837 One (1) piece of wood with cardboard (Item # 4W1D, E5754004)
- Q838 One (1) cardboard tube with fuse (Item 4W1E, E5754005)
- Q839 Seven (7) pieces of wood with cardboard (Item # 4W2C, E5754008)
- Q840 Plastic and paper packaging (Item # 4W3A, E5754010)
- Q841 Two (2) plastic bags and cardboard (4W3B, E5754011)
- Q842 Cardboard packaging (4W3C, E5754012)
- Q843 One (1) cardboard tube with fuse (Item # 4W1B, E5754002)
- Q843.1 Powder from Q843 (Item # 4W1B, E5754002)

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- Q843.2 Powder from Q843 (Item # 4W1B, E5754002)
- Q844 Three (3) cardboard tubes attached with fuse (Item # 4W1B, E5754002)
- Q845 Two (2) cardboard tubes with fuse (Item # 4W1C, E5754003)
- Q846 Two (2) cardboard tubes with fuse (Item # 4W1C, E5754003)
- Q847 Two (2) cardboard tubes with fuse (Item # 4W2A, E5754006)
- Q848 Two (4) cardboard tubes attached with fuse (Item # 4W2A, E5754006)
- Q849 One (1) cardboard tube with fuse (Item # 4W2B, E5754007)
- Q850 Two (2) cardboard tubes with fuse (Item # 4W2B, E5754007)
- Q850.1 Tape from Q850 (Item # 4W2B, E5754007)
- Q851 Three (3) cardboard tubes with fuse (Item # 4W2B, E5754007)
- Q852 Black trash bag, white plastic bags, and tape (Item# 4W2D, E5754009)
- Q852.1 Tape from Q852 (Item# 4W2D, E5754009)

Date specimens received: April 27, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 6, 2013, RECEIVED INTO THE LABORATORY ON APRIL 27, 2013, ASSIGNED LABORATORY NUMBER 130427100 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM CRAPO LANDFILL, NEW BEDFORD, MA:**

- Q853 Fireworks debris (1B2735, E5182408)
- Q853.1 Fireworks packaging from Q853 (1B2735, E5182408)
- Q854 JanSport brand plaid gray/white backpack (1B2732, E5182409)\
- Q854.1 US Currency totaling \$0.01 (1B2732, E5182409)\

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- Q855 Black trash bag with red ties (1B2738, E5182411)
- Q855.1 Insect trap from Q555 (1B2738, E5182411)
- Q856 Piece of paper (1B2737, E5182410)
- Q856.1 Piece of paper (1B2737, E5182410)
- Q856.2 Piece of paper (1B2737, E5182410)
- Q856.3 Piece of paper (1B2737, E5182410)
- Q856.4 Piece of paper (1B2737, E5182410)
- Q857 One (1) black sock (1B2733, E5182406)
- Q857.1 One (1) black sock (1B2733, E5182406)
- Q857.2 One (1) academic planner (1B2733, E5182406)
- Q857.3 One (1) brochure (1B2733, E5182406)
- Q858 Kingston brand flash drive (1B2734, E5182407)
- Q859 Jar of Vaseline brand petroleum jelly (1B2736, E5182409)

Date specimen received: April 27, 2013

The following specimen was received in the Explosives Unit.

**THE FOLLOWING ITEM WAS SENT TO THE FBI LABORATORY BY THE FBI BOSTON DIVISION. THIS ITEM WAS SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 6, 2013, RECEIVED INTO THE LABORATORY ON APRIL 27, 2013, ASSIGNED LABORATORY NUMBER 130427101:**

K39 Elimination prints for [REDACTED]

Date specimens received: April 29, 2013

The following specimens were received in the Explosives Unit.

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**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 6, 2013, RECEIVED INTO THE LABORATORY ON APRIL 29, 2013, ASSIGNED LABORATORY NUMBER 130429002 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM** [REDACTED]

Q860 Swab of bathroom closet doorknob (1B2711, E5179611)  
Q861 Swab of doorknob in hall (1B2711, E5179611)  
Q862 Swab of doorknob inside outer door (1B2711, E5179611)  
Q863 Swab of doorknob into kitchen (1B2711, E5179611)  
Q864 Swab of doorknob in bedroom (1B2711, E5179611)  
Q865 Swab of closet door (1B2711, E5179611)  
Q866 Swab of bedroom foyer door (1B2711, E5179611)  
Q867 Swab of light switch, living area (1B2711, E5179611)  
Q868 Swab of sink in bathroom (1B2711, E5179611)  
K40 Control swab (1B2710, E5179610)  
K41 Control swab of [REDACTED]  
K42 Control swab of [REDACTED]

Date specimens received: April 29, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 6, 2013, RECEIVED INTO THE LABORATORY ON APRIL 29, 2013, ASSIGNED LABORATORY NUMBER 130429100 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM** [REDACTED]

K43 [REDACTED]

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**ACQUIRED FROM** [REDACTED]

K44

K45

K46

K47

**ACQUIRED FROM FOR** [REDACTED]

Q869 Swab of interior driver's door handle (1B2832, E5179657)

Q870 Swab of steering wheel (1B2832, E5179657)

Q871 Swab of radio and dash (1B2832, E5179657)

Q872 Swab of interior front passenger's door handle (1B2832, E5179657)

Q873 Swab of interior rear passenger's side door handle (1B2832, E5179657)

Q874 Swab of interior rear door (1B2832, E5179657)

Q875 Swab of exterior rear driver's door (1B2832, E5179657)

Q876 Swab of exterior passenger's door handles (1B2832, E5179657)

K48 Control swab (1B2829, E5179659)

K49 Control swab of tyvek (1B2830, E5179660)

K50 Control swab of tyvek (1B2831, E5179658)

**ACQUIRED FROM** [REDACTED]

Q877 Unused

Q878 Unused

Q879 Unused

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Q880 Swab of outside door handle (1B2799, E5179636)

Q881 Swab of inside door handle (1B2799, E5179636)

Q882 Swab of chair (1B2799, E5179636)

Q883 Swab of file cabinet handles (1B2799, E5179636)

Q884 Swab of desk ledge/desk (1B2799, E5179636)

Q885 Swab of mouse (1B2799, E5179636)

Q886 Swab of remote (1B2799, E5179636)

Q887 Swab of volume control (1B2799, E5179636)

Q888 Swab of laptop (1B2799, E5179636)

Q889 Swab of toiletries (1B2799, E5179636)

Q890 Swab of sunglasses (1B2800, E5179637)

Q891 Swab of bed frame (1B2800, E5179637)

Q892 Swab of writing implements (1B2800, E5179637)

Q893 Swab of dresser handles (1B2800, E5179637)

Q894 Swab of window (1B2800, E5179637)

Q895 Swab of wardrobe handles (1B2800, E5179637)

Q896 Swab of small, tan colored rug (1B2800, E5179637)

Q897 Swab of large, rust colored rug (1B2800, E5179637)

K51 Control swab (1B2796, E5179634)

K52 Control swab (1B2798, E5179635)

K53 Control swab (1B2798, E5179635)

K54 Control swab (1B2798, E5179635)

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Date specimens received: May 3, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 2, 2013, RECEIVED INTO THE LABORATORY ON MAY 3, 2013, ASSIGNED LABORATORY NUMBER 130503001:**

**ACQUIRED FROM MEDICAL EXAMINER'S OFFICE:**

K55 Five (5) hair samples from TAMERLAN TSARNAEV (1B2535, E5181218)

K56

K57

K58

K59

K60

K61

Date specimens received: May 7, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE SENT TO THE FBI LABORATORY BY THE FBI BOSTON DIVISION. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 6, 2013, RECEIVED INTO THE LABORATORY ON MAY 7, 2013, ASSIGNED LABORATORY NUMBER 130507007:**

K62

K63

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Date specimens received: May 7, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE RECOVERED FROM THE BOSTON BOMBING. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED MAY 6, 2013, RECEIVED INTO THE LABORATORY ON MAY 7, 2013, ASSIGNED LABORATORY NUMBER 130507008 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM 410 NORFOLK STREET, APT. 3, CAMBRIDGE, MA:**

- Q898 Swab of TV room (S1, 1B3008, E5756029)
- Q899 Swab of entry table (S2, 1B3008, E5756029)
- Q900 Swab of bureau top (S3, 1B3008, E5756029)
- Q901 Swab of tall bureau top (S4, 1B3008, E5756029)
- Q902 Swab of under bed (S5, 1B3008, E5756029)
- Q903 Swab of side table (S6, 1B3008, E5756029)
- Q904 Swab of bottom shelf (S7, 1B3008, E5756029)
- Q905 Swab of middle shelf (S8, 1B3008, E5756029)
- Q906 Swab of third shelf (S9, 1B3008, E5756029)
- Q907 Swab of computer desk (S10, 1B3008, E5756029)
- Q908 Swab of baseboard (S11, 1B3008, E5756029)
- Q909 Swab of window sill (S12, 1B3008, E5756029)
- Q910 Swab of under bed (S13, 1B3008, E5756029)
- Q911 Swab of bottom of closet (S14, 1B3008, E5756029)
- Q912 Swab of bathroom sink drain (S15, 1B3008, E5756029)
- Q913 Swab of tub drain (S16, 1B3008, E5756029)
- Q914 Swab of window sill (S17, 1B3008, E5756029)

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- Q915 Swab of counter surface (S18, 1B3008, E5756029)
- Q916 Swab of kitchen table, top of tablecloth (S19, 1B3008, E5756029)
- Q917 Swab of kitchen table, under tablecloth (S20, 1B3008, E5756029)
- Q918 Swab of kitchen drain (S21, 1B3008, E5756029)
- Q919 Swab of back door, third floor (S22, 1B3008, E5756029)
- Q920 Swab of first floor rear door, exterior of door (23, 1B3008, E5756029)
- Q921 Swab of second floor, exterior of door (S24, 1B3008, E5756029)
- Q922 Kitchen sink trap drain (1B2979, E5756054)
- Q923 Water from kitchen sink trap drain (1B2980, E5756055)
- Q924 Bathroom sink p-trap (1B2982, E5756057)
- Q925 Water from bathroom sink p-trap (1B2983, E5756058)
- Q926 Box of face masks (1B2976, E5756056)
- Q927 Two (2) BBs on blue plastic magnetic square (1B2990, E5756051)
- Q928 Exacto knife with blue handle (1B2999, E5756047)
- Q929 Plastic container with nails (1B3005, E5756039)
- Q930 Roll of pink paper (1B2993, E5756065)
- Q931 Hacksaw (1B2994, E5756061)
- Q932 Box of black gloves (1B2981, E5756060)
- Q933 Pants with belt (1B2984, E5756062)
- Q934 Dyson brand vacuum canister (1B2978, E5756030)
- Q934.1 BBs from Q934 (1B2978, E5756030)
- Q935 Blue Studio C brand notebook (1B2998, E5756046)

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Q935.1-Q935.87 Pages from Q935 (1B2998, E5756046)

Q936 Three (3) vacuum filters, yellow/blue carpet (V1-V3, 1B3011, E5756031)

Q937 One (1) vacuum filter, throw rugs (V4, 1B3011, E5756031)

Q938 One (1) vacuum filter, carpets toward hallway (V5, 1B3011, E5756031)

Q939 One (1) vacuum filter, floor under bed (V6, 1B3012, E5756035)

Q940 One (1) vacuum filter, closet and floor (V7, 1B3012, E5756035)

Q941 One (1) vacuum filter, closet, floor, and under bed (V9, 1B3014, E5756034)

Q942 One (1) vacuum filter, rug and floor (V10, 1B3015, E5756036)

Q943 One (1) vacuum filter, kitchen rug (V11, 1B3016, E5756033)

Q944 One (1) box of blue gloves (1B2995, E5756063)

K64 Control swab (C1, 1B2992, E5756028)

K65 Control swab (C2, 1B2992, E5756028)

K66 Control swab (C3, 1B2992, E5756028)

K67 Control swab (C4, 1B2992, E5756028)

K68 Control swab (C5, 1B3010, E5756027)

K69 Control swab (C5, 1B3008, E5756029)

Date specimens received: May 8, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE SENT TO THE FBI LABORATORY BY THE FBI TAMPA DIVISION. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED APRIL 22, 2013, RECEIVED INTO THE LABORATORY ON MAY 8, 2013, ASSIGNED LABORATORY NUMBER 130508016:**

K70

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[REDACTED]

Date specimens received: July 26, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE SENT TO THE FBI LABORATORY BY THE MASSACHUSETTS STATE POLICE LABORATORY VIA FBI BOSTON DIVISION. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED JULY 11, 2013, RECEIVED INTO THE LABORATORY ON JULY 26, 2013, ASSIGNED LABORATORY NUMBER 130726007 AND EXAMINED IN THE EXPLOSIVES UNIT:**

Q1274 Unused

Q1275 Unused

Q1276 Six (6) vacuum filters from pants with belt, Dzhokhar Tsarnaev (Item 1B3207, E5029901)

Q1277 Four (4) trace samples from pants with belt, Dzhokhar Tsarnaev (Item 1B3208, E5029902)

Q1278 Two (2) vacuum filters from shirt, Dzhokhar Tsarnaev (Item 1B3209, E5029903)

Q1279 Three (3) trace samples from shirt, Dzhokhar Tsarnaev (Item 1B3210, E5029903)

Q1280 Four (4) vacuum filters from sweatshirt, Dzhokhar Tsarnaev (Item 1B3211, E5029905)

Q1281 Four (4) trace samples from sweatshirt, Dzhokhar Tsarnaev (Item 1B3212, 5029906)

Date specimen received: August 13, 2013

The following specimen was received in the Explosives Unit.

**THE FOLLOWING ITEM WAS SENT TO THE FBI LABORATORY BY THE FBI BOSTON DIVISION. THIS ITEM WAS SUBMITTED UNDER COVER OF COMMUNICATION DATED AUGUST 5, 2013, RECEIVED INTO THE LABORATORY ON AUGUST 13, 2013, ASSIGNED LABORATORY NUMBER 130813015 AND EXAMINED IN THE EXPLOSIVES UNIT:**



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Q1282 Vacuum cleaner (1B2088, E5182968)

Q1282.1 U.S. Currency totaling \$0.07 (1B2088, E5182968)

Date specimens received: August 16, 2013

The following specimens were received in the Explosives Unit.

**THE FOLLOWING ITEMS WERE SENT TO THE FBI LABORATORY BY THE FBI BOSTON DIVISION. THESE ITEMS WERE SUBMITTED UNDER COVER OF COMMUNICATION DATED AUGUST 8, 2013, RECEIVED INTO THE LABORATORY ON AUGUST 16, 2013, ASSIGNED LABORATORY NUMBER 130816005 AND EXAMINED IN THE EXPLOSIVES UNIT:**

**ACQUIRED FROM PINE DALE HALL (ROOM 7341) AT UMASS DARTMOUTH:**

Q1283 Vacuum filter (1B3241, E5029920)

Q1284 Vacuum filter (1B3240, E5029919)

Q1285 Vacuum filter (1B3239, E5029918)

Q1286 Vacuum filter (1B3238, E5029916)

Q1287 Vacuum filter (1B3237, E5029917)

Q1288 Vacuum filter (1B3236, E5029915)

Q1289 Vacuum filter (1B3235, E5029914)

Q1290 Vacuum filter (1B3233, E5029913)

Q1291 Vacuum filter (1B3234, E5029912)

Q1292 Vent filter (1B3245, E5029924)

Q1293 Eight (8) swabs (1B3244, E5029923)

Q1293.1 One (1) swab from Q1293, right side of bed, S1 (1B3244, E5029923)

Q1293.2 One (1) swab from Q1293, window sill, S3 (1B3244, E5029923)

Q1293.3 One (1) swab from Q1293, right side of desk, S2 (1B3244, E5029923)

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Q1293.4 One (1) swab from Q1293, right side of dresser, S4 (1B3244, E5029923)

Q1293.5 One (1) swab from Q1293, front closet, S5 (1B3244, E5029923)

Q1293.6 One (1) swab from Q1293, right side of shelves, S6 (1B3244, E5029923)

Q1293.7 One (1) swab from Q1293, lower vent, S7 (1B3244, E5029923)

Q1293.8 One (1) swab from Q1293, upper vent, S8 (1B3244, E5029923)

Q1294-Q1310 Seventeen (17) latent lifts (1B3243, E5029922)

K85 Control swab, gloves and suit (1B3244, E5029923)

K86 Control swab, work surface (1B3244, E5029923)

This report contains the final results of the hazardous device examinations performed in the Explosives Unit.

#### **Background Information:**

On April 15, 2013 at approximately 2:49pm, two (2) Improvised Explosive Devices (IEDs) exploded near the finish line of the Boston Marathon within a short period of time (measured in seconds) of each other on Boylston Street, Boston, Massachusetts. The first IED exploded near the Marathon Sports store located at 671 Boylston Street, designated Scene A, and the second IED exploded near the Forum Restaurant located at 755 Boylston Street, designated Scene B.

In the early morning hours of April 19, 2013, Watertown Police Department personnel were in a shootout with two (2) subjects in the vicinity of the East Watertown area. Multiple IEDs were used and several exploded during the shootout between the police and the two (2) subjects. After the scene was secured, a search was conducted and additional IEDs were located. The local bomb technicians performed a render-safe procedure (RSP) on those IEDs. A render-safe procedure utilizes tools to remotely break apart an IED, thereby making it safe to approach and collect the evidence.

#### **Conclusions:**

Present in the above specimens are the fragmented remains and intact components of multiple improvised explosive devices (IEDs) also known as destructive devices or homemade bombs. The general components of an improvised explosive device (IED) consist of an explosive main charge, a container and a fuzing system. The fuzing system could either be an electrical or non-electrical system.

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The two (2) Radio-Controlled Improvised Explosive Devices (RCIEDs), which exploded near the finish line of the Boston Marathon, were placed in backpacks for concealment and transportation. Specifically, both IEDs consisted of a low explosive main charge, pressure cooker (container) and radio-controlled (RC) hobby car components (electrical fuzing system). The primary means of initiating these devices were the RC hobby car components with the appropriate radio system (transmitter). In addition, both of these IEDs utilized a secondary means of initiation which consisted of cannon fuse also commonly referred to as hobby fuse (non-electrical fuzing system). The IEDs had BBs and nails contained within them for added fragmentation. Fragmentation is used in an IED to increase the lethality against personnel and is indicative of an anti-personnel device.

At the Watertown scene, the fragmented remains of one (1) IED consisted of a low explosive main charge, a pressure cooker (container) and non-electrical fusing system which consisted of hobby fuse. This IED also utilized an additional means of initiation which consisted of wire, a switch and battery (electrical fuzing system). The fragmented remains of the two (2) other IEDs consisted of a low explosive main charge, pipe with end-caps (container) and hobby fuse (non-electrical fuzing system). These three (3) IEDs had BBs contained within them for added fragmentation. Fragmentation is used in an IED to increase the lethality against personnel and is indicative of an anti-personnel device.

In addition, three (3) IEDs were recovered by law enforcement personnel. One (1) IED consisted of a low explosive main charge, a plastic container and hobby fuse (non-electrical fuzing system). The other two (2) IEDs consisted of a low explosive main charge, pipe with end-caps (container) and hobby fuse (non-electrical fuzing system). These two (2) IEDs also had BBs contained within them for added fragmentation. Fragmentation is used in an IED to increase the lethality against personnel and is indicative of an anti-personnel device.

These types of IEDs which are described above would cause property damage, personal injury or death. A detailed description of the components that comprise these IEDs is provided hereafter:

#### **Results of Examinations:**

##### **SCENE A**

##### **Explosive Main Charge**

The chemical analysis of specimens from Scene A revealed the presence of residues from a low explosive that is consistent with a pyrotechnic mixture. When properly ignited by a suitable source of heat, low explosives are designated to deflagrate and generate gases. Properly confined in a container, the gases generate pressure on the container walls and cause an explosion of the container.



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For detailed information on the chemical analysis conducted on the explosive main charge see the FBI Laboratory Report of David A. McCollam, Explosives Unit, dated May 12, 2014.

### Backpack

Present in the following listed specimens are numerous fragmented remains that are consistent with one (1) black-colored "Ful" brand backpack; Specimens Q68, Q95, Q107, Q109 (inner lining w/ logo), Q109.1 (zipper pulls w/ logo), Q170, Q176, Q188, Q193, Q194, Q198 (outer material and inner lining w/ logo), Q200, Q201 (inner lining w/ logo), Q216, Q307, Q316, Q333, Q342 (inner lining w/ logo), Q348, Q356, Q360, Q361, Q363, Q364, Q365, Q366, Q368, Q370, Q372, Q375, Q379, Q380, Q388 (inner lining w/ logo), Q397, Q408, Q410, Q411, Q412, Q414, Q415, Q417, Q432, Q435, Q436, Q437 (zipper pull w/ logo), Q439, Q446 (inner lining w/ logo), Q447, Q450, Q452 (inner lining w/ logo), Q455, Q464 (inner lining w/ logo) and Q467.

The "Ful" brand of backpack is owned by JALP, LLC (Limited Liability Company Tennessee), 1900 Covington Pike, Memphis, Tennessee 38128.

This backpack was used to conceal and transport the IED into an area near the finish line of the Boston Marathon.

### Container

Present in the following listed specimens are the fragmented remains that are consistent with one (1) silver-colored, six liter (6L), "Fagor" brand pressure cooker; Specimens Q9, Q10, Q53, Q54, Q67, Q68.1, Q83, Q92, Q101, Q102, Q173, Q174, Q180, Q189, Q196, Q205, Q206, Q321, Q323, Q326, Q327, Q329, Q331, Q334, Q335, Q377, Q425, Q442 and Q465.

This "Fagor" brand pressure cooker is from the "Elite Line" series from FAGOR AMERICA, INC., PO Box 94, Lyndhurst, N.J. 07071. Specimen Q53 which is the base of the pressure cooker has the following descriptive information; "GAS-ELECTRIC VITRO-INDUCTION, INVOX 18/10 FAGOR PLAKSTEEL, 12 : :: LISTED 85M7 PRESSURE COOKER, 0.55/1.05 BAR PS: 1,6 BAR". This 6L pressure cooker was manufactured June 2012.

### Fuzing System:

A fuzing system in a destructive device can include components which allow a person placing the device with a time delay to safely leave the scene prior to the functioning of the device. A fuzing system can either be an electrical or non-electrical system. This IED utilized an electrical fuzing system as the primary means of initiation and a non-electrical fuzing system as a secondary means of initiation. These two (2) systems will be addressed below.



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### Electrical Fuzing System

The electrical fuzing system consisted of wire, a safe/arming switch, radio-controlled (RC) hobby car components (a receiver and electronic speed controller) used as switches, a power source and initiator.

#### Wire

Present in the following listed specimens are the fragmented remains of green-insulated, sixteen (16) and eighteen (18) strand copper-colored wire; Specimens Q6, Q106, Q109.2, Q171, Q177, Q188, Q190, Q195, Q215, Q308, Q309, Q319, Q339, Q371, Q438, Q440 and Q467.2

Wire acts as a conductor in the fuzing system to facilitate the flow of an electrical current from a power source to the initiator.

#### Safe/Arming Switch

Present in Specimens Q67, Q171, Q203, and Q324 are the fragmented remains that are consistent with an illuminated-type toggle switch. Specimen Q203 has the following information on the metal casing of the toggle switch; "OFF, CHINA, CONNECTIONS, POWER LOAD and GROUND" This information is indicative of a toggle switch that is the illuminated-type. No manufacturer of the toggle switch could be identified due to the fragmented remains of the switch.

A safe/arming switch would allow the person who is arming the IED to safely perform that procedure without it functioning. Once this procedure is completed, the device would then be armed and waiting for some type of additional action to occur. This could be performed by an unknowing person or the bomber.

#### (RC) Hobby Car Receiver

Present in the following listed specimens are the fragmented remains that are consistent with one (1) "FlySky" brand receiver; Specimens Q178, Q211.1, Q308, Q311, Q337 and Q339.

Specimen Q178, which is the receiver circuit-board, has the following descriptive information printed on the board; "ANT, FS-GR3E, THK=1.0mm, VER 2.1, 2011-04-22, ZLH".

#### (RC) Hobby Car Electronic Speed Controller

Present in the following listed specimens are the fragmented remains that are consistent with one (1) electronic speed controller from an "Exceed-RC" Model 51C809 Rally

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Monster EP radio controlled truck; Specimens Q39, Q68, Q172, Q179, Q182, Q195, Q211, Q310, Q311, Q377, Q391, Q420 and Q440.

Specimen Q39, which is the electronic speed controller circuit-board, has the following descriptive information printed on the backside of board; "KTH-60200-01".

#### (RC) Hobby Car Body

Present in the following listed specimens are the fragmented remains that are consistent with the black-colored plastic RC hobby car frame; Specimens Q221.1, Q309, Q309.1, Q309.2, Q320, Q343 and Q419.

#### Power Source

Present in the following listed specimens are the fragmented remains that are consistent with one (1) 7.2V 1800mAh Ni-Mh "Exceed-RC" brand battery pack; Specimens Q7, Q110, Q169, Q188, Q202, Q208, Q210, Q212, Q315, Q325, Q330, Q333, Q341, Q369.2, Q450.2 and Q467.1.

"Exceed-RC" brand is a wholesale distributorship of remote control toys for Egrandbuy, Inc. Corporation California, 321 Vineland Ave., City of Industry, California 91746.

#### Initiator

Present in Specimen Q369.1 is a plastic fragment that is consistent with a Christmas tree light bulb's plastic casing. The small green-colored piece appears to be part of the inner plastic casing in which the light bulb would be seated.

Christmas tree light bulbs have previously been utilized in IEDs worldwide, whether in the construction of improvised detonators or initiating main charge low explosives. Passing a sufficient electrical current through the filament of the light bulb would cause it to initiate a low explosive or primary explosive.

This fuzing system would require an appropriate radio-controlled (RC) transmitter to function the RC hobby car components, specifically the receiver. The transmitter would send a radio signal (a given frequency) to the receiver which would convert the signal into a suitable electrical control signal. This electrical signal from the receiver would trigger the electronic speed controller and allow an electrical current from the battery to flow to the initiator causing it to heat up and ignite the main charge explosive in the IED.

For information on the analysis conducted on the RC hobby car receiver and electronic speed controller see the Report of Analysis by Michael D. McFarlane, the Cryptologic and Electronic Analysis Unit (CEAU), from the FBI Digital Forensic and Analysis Section, dated April 3, 2014.



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Non-Electrical Fuzing System

Present in specimen Q192 is green-colored cannon fuse also commonly referred to as hobby fuse. The two (2) small fragmented pieces of hobby fuse were taped together with black-colored tape. The manufacturer of this fuse could not be determined.

Hobby fuse consists of fibers woven around either a black powder or perchlorate based core. Hobby fuse is readily available to the general public through numerous online vendors. It burns at a rate of approximately two (2) seconds per inch, although the rate of burning may vary greatly from one roll of fuse to the next.

This fuzing system would require a suitable heat source, like a flame, to ignite the hobby fuse which in turn would burn down the length of the fuse and initiate the main charge explosive in the IED.

For information on the chemical analysis conducted on the hobby fuse see the FBI Laboratory Report of David A. McCollam, Explosives Unit, dated May 12, 2014.

Fragmentation

Present in the following listed specimens are numerous BBs which are approximately 0.17 inches in diameter. These BBs are consistent with copper-colored BBs which are utilized with pump-action or compressed-gas type BB guns; Specimens Q8, Q40, Q54, Q69, Q71, Q96, Q183, Q197, Q 204, Q207, Q208, Q209, Q213, Q214, Q336, Q338, Q357, Q372.1, Q374, Q 383, Q384, Q385, Q386, Q387, Q389, Q392, Q393, Q394, Q396, Q398, Q401, Q402, Q403, Q404, Q405, Q411, Q412.1, Q415, Q418, Q422, Q432, Q434, Q450.1, Q460, Q461, Q463, Q468, Q469, Q470, Q471, Q472, Q473, Q474 and Q569.

The addition of any type of metal to an IED will add to its potential fragmentation. Fragmentation is also known as shrapnel. The purpose of shrapnel is to enhance the damage caused by the explosion of an IED, particularly against human targets.

Sealant

Present in the following listed specimens are the fragmented remains of material consistent with a sealant type material; Specimens Q8.1, Q209.4, Q214.1, Q336.1, Q383.1, Q384.1, Q385.1, Q386.1, Q387.1, Q392.2, Q398.1, Q401.1, Q402.1, Q404.1, Q405.1, Q415.1, Q418.1, Q422.1, Q434.1 and Q463.1. It was observed that the BBs which were used as fragmentation were embedded within the sealant material. It appears that the sealant material was used to make a fragmentation sleeve on the inside of the container along with holding the BBs in place.

For additional information on the analysis conducted on the sealant material see the FBI Laboratory Report of Andria Mehlretter, Chemistry Unit, dated July 24, 2013.

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Cardboard

Present in the following listed specimens are the fragmented remains of material consistent with cardboard; Specimens Q108, Q183, Q185, Q191, Q199, Q199.26-Q199.27, Q199.28-Q199.30, Q214, Q306, Q421, Q431, Q432 and Q433. It was observed that pieces of this cardboard had silver-colored duct tape attached and some pieces of cardboard were circular in shape. Burnt and black scorch marks were observed on various fragmented pieces.

Pink Paper

Present in the following listed specimens are the fragmented remains of material consistent with a pink-colored paper material; Specimens Q8, Q207, Q209 and Q405. This pink paper appeared to be utilized as backing material for the added fragmentation and separated it from the main charge explosive within the IED.

Tapes

Present in the following listed specimens are the fragmented remains of tape consistent with a silver-colored duct tape; Specimens Q79, Q91, Q91.1, Q91.2, Q91.3, Q108.1, Q108.2, Q183.1, Q183.1.2, Q185.1, Q191.1, Q199.1-Q199.25, Q199.31-Q199.34, Q306.1, Q392.1 and Q433.1. Some of the pieces had nominal widths of one and seven-eighths (1 7/8") inches.

Present in the following listed specimens are the fragmented remains of tape consistent with a black-colored duct tape; Specimens Q53.1, Q86, Q104.2, Q444.1, Q458 and Q458.1. Some of the pieces had nominal widths of one (1") inch, one and three-fourths (1 3/4") inches and two (2") inches.

Present in the following listed specimens are the fragmented remains of tape consistent with a clear/colorless packaging tape; Specimens Q183.2, Q209.3, Q394.1, Q405.2, Q460.1 and Q460.1.1. A nominal width could not be determined based on the condition of the fragmented remains.

Present in the following listed specimens are the fragmented remains of tape consistent with a black-colored electrical tape; Specimens Q39.1-Q39.2, Q77, Q104, Q171.1, Q190.1, Q192.1, Q195.1, Q208.1, Q324.1, Q330.1, Q438.1-Q438.2 and Q444.2. Some of the pieces had nominal widths of three-fourths (3/4") of an inch.

The various types of tape listed above were observed within the fragmented remains of the IED. Specifically, the container, the two (2) fuzing systems, cardboard and pink paper had fragmented pieces of tape attached. These types of available tape have been commonly used in the construction of IEDs. The ends of the various pieces of tapes contained in the specimens

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may be suitable for end-matching if similar tapes are recovered during the course of the investigation.

For additional information on the analysis conducted on the various types of tape see the FBI Laboratory Report of Andria Mehlretter, Chemistry Unit, dated December 17, 2013.

## **SCENE B**

### **Explosive Main Charge**

The chemical analysis of specimens from Scene B revealed the presence of residues from a low explosive that is consistent with a pyrotechnic mixture. When properly ignited by a suitable source of heat, low explosives are designated to deflagrate and generate gases. Properly confined in a container, the gases generate pressure on the container walls and cause an explosion of the container.

For detailed information on the chemical analysis conducted on the explosive main charge see the FBI Laboratory Report of David A. McCollam, Explosives Unit, dated May 12, 2014.

### **Backpack**

Present in the following listed specimens are numerous fragmented remains that are consistent with one (1) black-colored "Fox" brand backpack; Specimens Q11, Q52, Q116 (zipper pull w/ logo), Q118 (zipper pull w/ logo), Q119, Q121, Q123, Q124 (zippers w/ logo), Q131, Q133, Q135 ("FOX" logo on outer material), Q137 (zipper pull w/ logo), Q141 (material w/ logo), Q143, Q144, Q150 ("FOXRIDERSCO" on carry handle), Q152, Q158, Q223, Q224, Q227, Q228, Q237, Q241, Q248 (zipper pull w/ logo), Q249 (zipper pull w/ logo), Q252, Q254 (zipper pull w/ logo), Q255, Q256, Q285, Q288 (zipper pull w/ logo), Q292, Q294, Q478 (zipper pull w/ logo), Q479, Q480, Q488, Q490, Q491, Q496, Q500, Q507, Q509, Q510, Q512, Q515, Q518, Q521, Q522, Q524, Q525, Q531, Q534, Q541, Q543, Q552, Q553, Q555, Q556 and Q557.

The "Fox" brand of backpack is owned by FOX HEAD Inc., 16752 Armstrong Ave., Irvine, California 92606.

This backpack was used to conceal and transport the IED into an area near the finish line of the Boston Marathon.

### **Container**

Present in the following listed specimens are the fragmented remains that are consistent with one (1) silver-colored, six liter (6L), "Fagor" brand pressure cooker; Specimens



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Q12, Q13, Q14, Q15, Q16, Q44, Q49, Q126, Q140, Q157, Q220, Q299, Q483, Q484, Q516 and Q544.

This "Fagor" brand pressure cooker is from the "Elite Line" series from FAGOR AMERICA, INC., PO Box 94, Lyndhurst, N.J. 07071. Specimens Q12 and Q16 which are the base of the pressure cooker have the following descriptive information; "GAS-ELECTRIC VITRO-INDUCTION, INVOX 18/10 FAGOR PLAKSTEEL, 12 :::: LISTED 85M7 PRESSURE COOKER, 0.55/1.05 BAR PS: 1,6 BAR". This 6L pressure cooker was manufactured August 2012.

#### Fuzing System:

A fuzing system in a destructive device can include components which allow a person placing the device with a time delay to safely leave the scene prior to the functioning of the device. A fuzing system can either be an electrical or non-electrical system. This IED utilized an electrical fuzing system as the primary means of initiation and a non-electrical fuzing system as a secondary means of initiation. These two (2) systems will be addressed below.

#### Electrical Fuzing System

The electrical fuzing system consisted of wire, radio-controlled (RC) hobby car components (a receiver and electronic speed controller) used as switches, a power source and initiator. A safe/arming switch was not required based on how the radio-controlled (RC) hobby car components functioned within this IED.

#### Wire

Present in the following listed specimens are the fragmented remains of green-insulated, sixteen (16) and eighteen (18) strand copper-colored wire; Specimens Q49, Q51, Q52, Q153, Q230, Q234, Q235.1, Q240, Q241, Q250, Q252, Q475, Q503 and Q515.1.

Wire acts as a conductor in the fuzing system to facilitate the flow of an electrical current from a power source to the initiator.

#### (RC) Hobby Car Receiver

Present in the following listed specimens are the fragmented remains that are consistent with one (1) "Spektrum SR201" brand receiver; Specimens Q122 and Q122.1.

Specimen Q122, which is the receiver, has the following descriptive information printed on the circuit-board; "IT T-202, Δ94V0, 1230, SR300 RevA, SPEKTRUM 2008". On the backside of the circuit-board there is a small white-colored sticker with the following information; "ST212M". Specimen Q212.1, the black plastic casing, has the following information; "LOT No. 1212".

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(RC) Hobby Car Electronic Speed Controller

Present in the following listed specimens are the fragmented remains that are consistent with one (1) "DURATRAX SPRINT" brand electronic speed controller; Specimens Q41, Q50, Q52, Q117, Q128, Q136, Q138, Q146, Q165, Q218, Q219, Q231, Q236, Q239, Q242, Q244, Q251, Q295, Q480.5 and Q540.

Specimen Q138, which is a black-colored plastic fragmented piece of the electronic speed controller casing, has the following descriptive information; "DURATRAX, PRINT, ESC w/ REVERSE".

Power Source

Present in the following listed specimens are the fragmented remains that are consistent with one (1) 7.2V 3000mAh Nickel-Metal Hydride (Ni-Mh) "Tenergy" brand battery pack; Specimens Q42, Q46, Q48, Q115, Q132, Q171, Q221, Q226, Q303, Q391 and Q570.

The manufacturer of this battery is the Tenergy Corporation, 436 Kato Terrace, Fremont, California 94539.

Initiator

No remains of an initiator were found in the submitted specimens for Scene B. Due to an explosive event of this type which generates high pressures and heat, IED components may or may not be recovered during the processing of the scene.

Christmas tree light bulbs have previously been utilized in IEDs worldwide whether in the construction of improvised detonators or initiating main charge low explosives. Passing a sufficient electrical current through the filament of the light bulb would cause it to initiate a low explosive or primary explosive.

This fuzing system would require an appropriate radio-controlled (RC) transmitter to function the RC hobby car components, specifically the receiver. The transmitter would send a radio signal (a given frequency) to the receiver which would convert the signal into a suitable electrical control signal. This electrical signal from the receiver would trigger the electronic speed controller and allow an electrical current from the battery to flow to the initiator causing it to heat up and ignite the main charge explosive in the IED.

For information on the analysis conducted on the RC hobby car receiver and electronic speed controller see the Report of Analysis by Michael D. McFarlane, the Cryptologic and Electronic Analysis Unit (CEAU), from the FBI Digital Forensic and Analysis Section, dated April 4, 2014.



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### Non-Electrical Fuzing System

Present in specimen Q130 is green-colored cannon fuse also commonly referred to as hobby fuse. The two (2) small fragmented pieces of hobby fuse were taped together with black-colored tape. The manufacturer of this fuse could not be determined.

Hobby fuse consists of fibers woven around either a black powder or perchlorate based core. Hobby fuse is readily available to the general public through numerous online vendors. It burns at a rate of approximately two (2) seconds per inch, although the rate of burning may vary greatly from one roll of fuse to the next.

This fuzing system would require a suitable heat source, like a flame, to ignite the hobby fuse which in turn would burn down the length of the fuse and initiate the main charge explosive in the IED.

For information on the chemical analysis conducted on the hobby fuse see the FBI Laboratory Report of David A. McCollam, Explosives Unit, dated May 12, 2014.

### Fragmentation

Present in the following listed specimens are numerous small steel nails which are approximately 0.58 inches in length and BBs which are approximately 0.17 inches in diameter. The BBs are consistent with copper-colored BBs which are utilized with pump-action or compressed-gas type BB guns; Specimens Q13, Q41, Q49, Q120, Q129, Q145, Q149, Q156.2, Q157, Q159, Q167.5, Q224, Q225, Q227, Q229, Q243, Q247, Q292, Q475, Q476, Q477, Q480.2, Q483, Q487, Q488.1, Q489, Q490.1, Q493, Q495, Q498, Q499, Q501, Q506, Q508, Q511, Q513, Q514, Q516, Q517, Q523.1, Q526, Q527, Q528, Q530, Q532, Q533, Q535, Q536, Q538, Q542, Q549, Q550, Q551, Q554 and Q555.1.

The addition of any type of metal to an IED will add to its potential fragmentation. Fragmentation is also known as shrapnel. The purpose of shrapnel is to enhance the damage caused by the explosion of an IED, particularly against human targets.

### Sealant

Present in the following listed specimens are the fragmented remains of material consistent with a sealant type material; Specimens Q119.1, Q120.1, Q129.1, Q129.2, Q138, Q139.1, Q139.2, Q145.1, Q149.1, Q149.2, Q157.2, Q157.4, Q292.1, Q480.3, Q489.1, Q495.1, Q498.2, Q498.5, Q508.1, Q508.2, Q514.1, Q515.3, Q516.1, Q516.2, Q517.1, Q517.2, Q526.1, Q516.2, Q527.1, Q527.2, Q535.1, Q536.1, Q537, Q538.1, Q550.1 and Q554.1. It was observed that the nails and BBs which were used as fragmentation were embedded within two (2) types of sealant material. One was white in color and the other was heterogeneous. It appears that the sealant material was used to make a fragmentation sleeve on the inside of the container along with holding the nails and BBs in place.

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For additional information on the analysis conducted on the sealant material see the FBI Laboratory Report of Andria Mehlretter, Chemistry Unit, dated July 24, 2013.

#### Cardboard

Present in the following listed specimens are the fragmented remains of material consistent with cardboard; Specimens Q125, Q151, Q157, Q255, Q276.1, Q293, Q480.4, Q486 and Q515. It was observed that pieces of this cardboard had silver-colored duct tape attached and some pieces of cardboard were circular in shaped. Burnt and black scorch marks were observed on various fragmented pieces.

#### Pink Paper

Present in the following listed specimens are the fragmented remains of material consistent with a pink-colored paper material; Specimens Q129, Q148, Q167.6, Q229 and Q292. This pink paper appeared to be utilized as backing material for the added fragmentation and separated it from the main charge explosive within the IED.

#### Tapes

Present in the following listed specimens are the fragmented remains of tape consistent with a silver-colored duct tape; Specimens Q125.1, Q151.1, Q151.1.1, Q157.1, Q158.1, Q162.1, Q255.1, Q276.1, Q291.1, Q293.1-Q293.3, Q296.1, Q301.1-Q301.2, Q480.1, Q486.1 and Q546.1. Some of the pieces had nominal widths of approximately one and seven-eighths (1 7/8") inches.

Present in the following listed specimens are the fragmented remains of tape consistent with a black-colored duct tape; Specimens Q52.5, Q131.1, Q151.2, Q151.2.1, Q162, Q227.1.1, Q296.2 and Q510.1. Some of the pieces had nominal widths of approximately three-fourths (3/4") of an inch and one (1") inch.

Present in the following listed specimens are the fragmented remains of tape consistent with a clear/colorless packaging tape; Specimens Q125.3, Q125.3.1, Q129.3, Q157.3, Q167.6.1 and Q227.1. A nominal width could not be determined based on the condition of the fragmented remains.

Present in the following listed specimens are the fragmented remains of tape consistent with a black-colored electrical tape; Specimens Q42.1-Q42.6, Q44.1-Q44.2, Q52.1-Q52.4, Q130.1, Q146.1, Q231.1, Q283, Q543.1 and Q556.1. Some of the pieces had nominal widths of approximately three-fourths (3/4") of an inch.

The various types of tape listed above were observed within the fragmented remains of the IED. Specifically, the container, the two (2) fuzing systems, cardboard and pink paper had



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fragmented pieces of tape attached. These types of available tape have been commonly used in the construction of IEDs. The ends of the various pieces of tapes contained in the specimens may be suitable for end-matching if similar tapes are recovered during the course of the investigation.

For additional information on the analysis conducted on the various types of tape see the FBI Laboratory Report of Andria Mehlretter, Chemistry Unit, dated December 17, 2013.

## WATERTOWN

### Pressure Cooker

#### Explosive Main Charge

The chemical analysis of specimens Q576 and Q588 from Watertown revealed the presence of residues from a low explosive that is consistent with a pyrotechnic mixture. When properly ignited by a suitable source of heat, low explosives are designated to deflagrate and generate gases. Properly confined in a container, the gases generate pressure on the container walls and cause an explosion of the container.

For detailed information on the chemical analysis conducted on the explosive main charge see the FBI Laboratory Report of David A. McCollam, Explosives Unit, dated May 12, 2014.

#### Container

Present in the following listed specimens are the fragmented remains that are consistent with one (1) silver-colored, four liter (4L), "Fagor" brand pressure cooker; Specimens Q576, Q578, Q588, Q620, Q649, Q654, Q657, Q658, Q659 and Q660.

This "Fagor" brand pressure cooker is from the "Elite Line" series from FAGOR AMERICA, INC., PO Box 94, Lyndhurst, N.J. 07071. Specimen Q576 which is the base of the pressure cooker have the following descriptive information; "GAS-ELECTRIC VITRO-INDUCTION, INVOX 18/10 FAGOR PLAKSTEEL, 12 :::: LISTED 85M7 PRESSURE COOKER, 0.55/1 05 BAR PS: 1 6 BAR". This 4L pressure cooker was manufactured October 2012.

#### Fuzing System

A fuzing system in a destructive device can include components which allow a person placing the device with a time delay to safely leave the scene prior to the functioning of the device. This IED utilized an electrical fuzing system and non- electrical fuzing system. These two (2) systems will be addressed below.